

## WHAT IS CLAIMED IS:

1. A display apparatus comprising:
  - a display unit having a matrix of multiple pixels;
  - a divider to divide a field of a digital input video signal to be supplied to the display unit into a specific number of subfields;
  - a memory storing a look-up table to be used by the divider for dividing the field into the subfields, the look-up table listing data for selectively turn on and off the subfields in accordance with gradation levels of the digital video signal, an image being to be displayed on the display unit when the subfields are selectively turn on;
  - and
  - a driver to drive the pixels of the display unit per specific number of subfields so that an image based on the digital input video signal is displayed on the display unit,
  - wherein the specific number of subfields are aligned in the look-up table in order of displaying the image, display periods of the subfields become longer or shorter in order of displaying the image, a difference in display period between subfields becomes smaller per one subfield or per several number of the subfields as the display periods become longer.
2. The display apparatus according to claim 1, in the look-up table, a specific subfield to be turned on is shifted from a first subfield having the shortest display period towards a second subfield having the longest display period among the subfields, as the gradation level becomes higher, and when the second subfield is turned on at a certain gradation level, the second subfield is continuously turned on at gradation levels higher than the certain gradation level.
3. A display apparatus comprising:
  - a display unit having a matrix of multiple pixels;
  - a divider to divide a field of a digital input video signal to be supplied to the display unit into a specific number of subfields;
  - a memory storing a look-up table to be used by the divider for dividing the field into the subfields, the look-up table listing data for selectively turn on and off the subfields in accordance with gradation levels of the digital video signal, an image being to be displayed on the display unit when the subfields are selectively turn on;
  - and

a driver to drive the pixels of the display unit per specific number of subfields so that an image based on the digital input video signal is displayed on the display unit,

wherein the specific number of subfields are aligned in the look-up table in order of displaying the image, display periods of the subfields become longer or shorter in order of displaying the image, a difference in display period between subfields is constant over the subfields.

4. The display apparatus according to claim 3, in the look-up table, a specific subfield to be turned on is shifted from a first subfield having the shortest display period towards a second subfield having the longest display period among the subfields, as the gradation level becomes higher, and when the second subfield is turned on at a certain gradation level, the second subfield is continuously turned on at gradation levels higher than the certain gradation level.

5. A display apparatus comprising:

a display unit having a matrix of multiple pixels;

a divider to divide a field of a digital input video signal to be supplied to the display unit into a specific number of subfields;

a memory storing a look-up table to be used by the divider for dividing the field into the subfields, the look-up table listing data for selectively turn on and off the subfields in accordance with gradation levels of the digital video signal, an image being to be displayed on the display unit when the subfields are selectively turn on; and

a driver to drive the pixels of the display unit per specific number of subfields so that an image based on the digital input video signal is displayed on the display unit,

wherein the specific number of subfields is divided into a first subfield group and a second subfield group aligned in the look-up table in order of displaying the image, first subfields in the first subfield group have display periods that become longer or shorter in order of displaying the image whereas second subfields in the second subfield group have a display period constant over the second subfields.

6. The display apparatus according to claim 5, in the look-up table, a specific subfield to be turned on is shifted from a first subfield having the shortest display period towards a second subfield having the longest display period over the first and

second subfield groups, as the gradation level becomes higher, and when the second subfield is turned on at a certain gradation level, the second subfield is continuously turned on at gradation levels higher than the certain gradation level.

7. A display apparatus comprising:

a display unit having a matrix of multiple pixels;

a divider to divide a field of a digital input video signal to be supplied to the display unit into a specific number of subfields;

a memory storing a look-up table to be used by the divider for dividing the field into the subfields, the look-up table listing data for selectively turn on and off the subfields in accordance with gradation levels of the digital video signal, an image being to be displayed on the display unit when the subfields are selectively turn on; and

a driver to drive the pixels of the display unit per specific number of subfields so that an image based on the digital input video signal is displayed on the display unit,

wherein the specific number of subfields is divided into a first subfield group, a second subfield group and a third subfield group aligned in the look-up table in order of displaying the image, first subfields in the first subfield group have display periods that become shorter in order of displaying the image, second subfields in the second subfield group have display periods shorter than the display periods of the first subfields, and third subfields in the third subfield group have display periods that become longer in order of displaying the image.

8. The display apparatus according to claim 7, wherein the display periods of the first subfields become shorter whereas the display periods of the third subfields become longer in an inverse proportional relationship.

9. The display apparatus according to claim 7, in the look-up table, when a specific subfield having the longest display period is turned on at a certain gradation level, the specific subfield is continuously turned on at gradation levels higher than the certain gradation level.

10. A display apparatus comprising:

a display unit having a matrix of multiple pixels;

a divider to divide a field of a digital input video signal to be supplied to the

display unit into a specific number of subfields;

a memory storing a look-up table to be used by the divider for dividing the field into the subfields, the look-up table listing data for selectively turn on and off the subfields in accordance with gradation levels of the digital video signal, an image being to be displayed on the display unit when the subfields are selectively turn on; and

a driver to drive the pixels of the display unit per specific number of subfields so that an image based on the digital input video signal is displayed on the display unit,

wherein the specific number of subfields is divided into a first subfield group, a second subfield group and a third subfield group aligned in the look-up table in order of displaying the image, first subfields in the first subfield group have a display period constant over the first subfields, second subfields in the second subfield group have display periods shorter than the display period of the first subfields, and third subfields in the third subfield group have a display period constant over the third subfields.

11. The display apparatus according to claim 10, wherein the display period constant over the first subfields and the display period constant over the third subfields are equal to each other.

12. The display apparatus according to claim 10, in the look-up table, when a specific subfield having the longest display period is turned on at a certain gradation level, the specific subfield is continuously turned on at gradation levels higher than the certain gradation level.

13. A display apparatus comprising:

a display unit having a matrix of multiple pixels;

a divider to divide a field of a digital input video signal to be supplied to the display unit into a specific number of subfields;

a memory storing a look-up table to be used by the divider for dividing the field into the subfields, the look-up table listing data for selectively turn on and off the subfields in accordance with gradation levels of the digital video signal, an image being to be displayed on the display unit when the subfields are selectively turn on; and

a driver to drive the pixels of the display unit per specific number of

subfields so that an image based on the digital input video signal is displayed on the display unit,

wherein the specific number of subfields are aligned into a subfield sequence in order of displaying the image in the look-up table, the specific number of subfields are divided into a first subfield group, a second subfield group and a third subfield group, subfields of the first subfield group have first different display periods, subfields of the second subfield group have second display periods all longer than the first display periods, the second display periods becoming shorter in order of displaying the image, the third subfield group have third display periods becoming longer in order of displaying the image, the subfields of the first subfield group being dispersed into the second and third subfield groups, the subfields of the second subfield group and the subfields of the first subfield group dispersed into the second subfield group consisting of a former half of the subfield sequence in order of displaying the image, the subfields of the third subfield group and the subfields of the first subfield group dispersed into the third subfield group consisting of a latter half of the subfield sequence in order of displaying the image, a total of the display periods in the former half of the subfield sequence and a total of the display periods in the latter half of the subfield sequence being almost equal to each other.

14. The display apparatus according to claim 13, wherein the display periods of the first subfields become shorter whereas the display periods of the third subfields become longer in an inverse proportional relationship.

15. The display apparatus according to claim 13, in the look-up table, when a specific subfield having the longest display period is turned on at a certain gradation level, the specific subfield is continuously turned on at gradation levels higher than the certain gradation level.

16. A display apparatus comprising:

a display unit having a matrix of multiple pixels;

a divider to divide a field of a digital input video signal to be supplied to the display unit into a specific number of subfields;

a memory storing a look-up table to be used by the divider for dividing the field into the subfields, the look-up table listing data for selectively turn on and off the subfields in accordance with gradation levels of the digital video signal, an image being to be displayed on the display unit when the subfields are selectively turn on;

and

a driver to drive the pixels of the display unit per specific number of subfields so that an image based on the digital input video signal is displayed on the display unit,

wherein the specific number of subfields are aligned into a subfield sequence in order of displaying the image in the look-up table, the specific number of subfields are divided into a first subfield group, a second subfield group and a third subfield group, subfields of the first subfield group have first different display periods, subfields of the second subfield group have a constant second display period longer than the first display periods, subfields of the third subfield group have a constant third display period, the subfields of the first subfield group being dispersed into the second and third subfield groups, the subfields of the second subfield group and the subfields of the first subfield group dispersed into the second subfield group consisting of a former half of the subfield sequence in order of displaying the image, the subfields of the third subfield group and the subfields of the first subfield group dispersed into the third subfield group consisting of a latter half of the subfield sequence in order of displaying the image, a total of the display periods in the former half of the subfield sequence and a total of the display periods in the latter half of the subfield sequence being almost equal to each other.

17. The display apparatus according to claim 16, wherein the second display period and the third display period are equal to each other.

18. The display apparatus according to claim 16, in the look-up table, when a specific subfield having the longest display period is turned on at a certain gradation level, the specific subfield is continuously turned on at gradation levels higher than the certain gradation level.